

## Report April – June 2023; Smell & Taste

### Peer-reviewed Original Publications

- Hernandez AK, Walke A, Haehner A, Cuevas M, Hummel T (2023) Associations Correlations between gustatory, trigeminal, and olfactory functions and nasal airflow. *Eur Arch ORI* (in press)
- Joshi A, Hornstein H, Thaploo D, Faria V, Warr J, Hummel T (2023) Neural processing of odors with different well-being associations—findings from two consecutive neuroimaging studies. *Brain Sci* (in press)
- Bühler D, Power Guerra N, Müller L, Wolkenhauer O, Düffer M, Vollmar B, Kuhla A, Wolfien M (2023). Leptin deficiency-caused behavioral change – A comparative analysis using EthoVision and DeepLabCut. *Front Neurosci* 17: <https://doi.org/10.3389/fnins.2023.1052079>
- Mai Y, Vogel C, Thiele J, Hölscher T, Hummel T (2023) Abnormal visual and olfactory sensations during radiation therapy: a prospective study. *Strahlenther Onkol* (in press)
- Mignot C, Faria V, Hummel T, Frost M, Michel CM, Gossrau G, Haehner A (2023) Migraine with Aura: less control over pain and fragrances? *J Headache Pain* (in press)
- Sabiniewicz A, Lindner KK, Haehner A, Hummel T (2023) Depression severity is affected differently in dysosmic patients who have experienced traumatic brain injury compared with those who have not. *Neurol Int* (in press)
- Müller L, Power Guerra N, Schildt A, Lindner T, Stenzel J, Behrangi N, Bergner C, et al. (2023). [18F]GE-180-PET and Post Mortem Marker Characteristics of Long-Term High-Fat-Diet-Induced Chronic Neuroinflammation in Mice. *Biomolecules*, 13(5), 769. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/biom13050769>
- Zhu Y, Joshi A, Taploo D, Hummel T (2023) Exploring brain functional connectivity of patients with taste loss after taste stimuli - a fMRI study. *Eur Arch ORL* (in press)
- Philpott C, Kumaresan K, Fjaeldstad AW, Macchi A, Monti G, Frasnelli J, Konstantinidis I, Pinto J, Mullol J, Boardman J, Vodicka J, Holbrook E, Ramakrishnan V, Lechner M, Hummel T (2023) Developing a Core Outcome Set for clinical trials in Olfactory Disorders: a COMET initiative. *Rhinology* (in press)
- Bräuer AU, Sevecke-Rave J, Gläser A, Nahrath P, Hummel T, Witt M (2023) Optimization of mRNA extraction from human nasal mucosa biopsies for gene expression profile analysis by qRT-PCR. *Clin Anat* (in press)
- Li Z, Salloum R, Hummel T (2023) Patients with olfactory loss exhibit pronounced adaptation to chemosensory stimuli: an electrophysiological study. *Rhinology* (in press)
- Herrmann T, Koepfel C, Linn J, Croy I, Hummel T (2023) Olfactory brain activations in patients with Major Depressive Disorder. *Sci Rep* (in press)
- Abrams KL, Ward DA, Sabiniewicz A, Hummel T (2023) Olfaction Evaluation in Dogs with Sudden Acquired Retinal Degeneration Syndrome (SARDS). *Vet Ophthalmol* (in press)
- Qiu YQ, Zhou H, Ma QW, Schriever VA, Hummel T, Zou LQ (2023) Normative data for odor identification performance using the U-sniff test from Chinese children and adolescents. *J Sens Stud* (in press)
- Sorokowska A, ...Hummel T (2023) Odors and crime scenes: Odor exposure does not aid immediate and delayed recall of a virtual reality crime scene
- Pieniak, M, Rönsch M, Oleszkiewicz A, Abele S Hummel T (2023) What makes a qualified chef? Olfactory and sociodemographic predictors of vocational exam results in culinary school students. *Vocations Learning* (in press)
- Ohla K, Busch NA, Höchenberger R, Parma V, Reed DR, Hummel T, Joseph P, Veldhuizen MG, Niv M, Pepino MY (2023) Covid-19 affects taste independently of smell: results from a

combined chemosensory home test and online survey from a global cohort (N=10,953).  
Chem Senses (in press)

- Cancellieri E, Hernandez AK, Degkwitz H, Kahre E, Blankenburg J, Horst TS, Czyborra P, Boscolo-Rizzo P, Hummel T (2023) Subjective perception of recovery and measured olfactory function in COVID-19 patients. *Viruses* (in press)
- Late blindness and deafness are associated with decreased tactile sensitivity, but early blindness is not. Koehler H, Croy I, Oleszkiewicz A. *Neuroscience*. 2023 Jun 27:S0306-4522(23)00279-8.

## Other publications (Chapters, peer-reviewed reviews, letters)

- Vroegop AV, Eeckels AS, Van Rompaey V, Vanden Abeele D, Schiappoli M, Alobid I, Hummel T, De Dorlodot C, Levie P, Huart C, Eloy P, Vanderveken OM, Hellings PW, Rombaux P, Gevaert P (2023) COVID-19 and olfactory dysfunction - an ENT perspective to the current COVID-19 pandemic. *J COVID Updates*. 29-33
- Hummel T, Power Guerra N, Gunder N, Hähner A, Menzel S. Olfactory Function and Olfactory Disorders. *Laryngorhinootologie*. 2023 May;102(S 01):S67-S92. English, German. doi: 10.1055/a-1957-3267. Epub 2023 May 2. PMID: 37130532.
- Whitcroft K, Altundag A, Balungwe P, Boscolo-Rizzo P, Douglas R, Enecilla MLB, Fjaeldstad A, Fornazieri M, Frasnelli J, Gane S, Gudziol H, Gupta N, Hähner A, Hernandez AK, Holbrook E, Hopkins C, Hsieh J, Huart C, Husain S, Kamel R, Kim JK, Kobayashi M, Konstantinidis I, Landis BN, Lechner M, Macchi A, Mazal PP, Miri I, Miwa T, Mori E, Mullol J, Mueller C, Ottaviano G, Patel Z, Philpott C, Pinto J, Ramakrishnan V, Roth Y, Schlosser R, Stjarne P, Van Gerven L, Vodicka J, Welge-Luessen A, Wormald PJ, Hummel T (2023) Position paper on olfactory dysfunction: 2022. *Rhinology* (in press)
- Loos HM, Schaal B, Pause BM, Smeets MAM, Ferdenzi C, Roberts SC, de Grooth J, Lübke KT, Ilona Croy I, Freiherr J, Bensafi M, Hummel T, Havlíček J (2023) Past, present, and future of human chemical communication. *Persp Psychol Sci* (in press)
- Hernandez AK, Hummel T (2023) Intranasal trigeminal function in chronic rhinosinusitis: a review. *Expert Rev Clin Immunol* (in press)

## Guests / Personnel / Visitors

- 12.4.-22.4.: Dr. Francesco de Sousa from the ENT Department at Centro Hospital Universitário do Porto, Portugal
- 27.4.2023: Phatthanamon Sinsawat (« book ») starts her 1 month visit from Faculty of medicine, Siriraj, Bangkok, Thailand.
- 3.4.2023-16.4.2023. [Dr. Charlotte Sinding](#) and Christopher Aveline visit from the INRAE in Dijon.
- 27.4.2023: [Prof. Holger Volk](#), Sebastian Meller, and Karo Zacharias visit from the department for Small Animal Diseases, Tierhochschule, Hannover
- 15.5.2023: [Prof. Adi Mizrahi](#) visits from the The Alexander Silberman Institute of Life Science, Hebrew University of Jerusalem
- 21.6.-23.6.2023: Jon Overdevest, M.D., visits from Columbia University, NY
- 1.6.2023-30.6.2023: [Brigit High](#), PhD, visits from University of **Colorado** Medical School,

## Thesis

- Lena **Linden**: Verlässlichkeit subjektiver Aussagen und Bewertung des Nutzens psychophysischer Tests im Themenkomplex Riechen - 25.04.2023
- Pia Marie **Zimmermann**: Einfluss von Gerüchen auf den Nachtschlaf - 25.04.2023
- Anabel **Stein**: Temporäre Verminderung des Geruchssinnes bei gesunden Probanden - 09.05.2023
- Selina **Stolper**: Korrelation von Selbsttests und standardisierten Testverfahren für das Riech- und Schmeckvermögen - 16.05.2023
- Benjamin **Brieke**: Untersuchung der Lateralisation von Duftstoffen mit eingemischten trigeminal reizenden Düften - 23.05.2023
- Laura **Bottesi**: Auswirkungen von Riechtraining mit Aromastics auf das Riechvermögen und kognitive Funktionen bei Patienten mit Riechstörungen und gesunden Probanden - 23.05.2023
- Belinda **Marquardt**: Riech- und Schmeckstörungen bei viralen Infektionen der oberen Atemwege – 6.6.2023
- Lea Maria **Müller**: Trigemurale Effekte auf die gustatorische Wahrnehmung - 11.7.2023
- Henriette Elisabeth **Zimmeck**: Altersabhängige Veränderungen elektrophysiologischer Reizantworten von der Riechschleimhaut – 27.6.2023
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## Presentations at Courses, Presentations etc.:

- 14.4.2023: Thomas Hummel in a Podcast on "[Restoring the sense of smell to COVID-19 patients](#)" with Dom Byrne,
- April 19-22, 2023: Presentations at the 45<sup>th</sup> Annual meeting of the Association for Chemoreception Sciences, Bonita Springs, FL, USA
  - Boichot V, Menetrier F, Saliou JM, Lirussi F, Canon F, Folia M, Heydel JM, Hummel T, Menzel S, Steinke M, Hackenberg S, Schwartz M, Neiers F (2023) Impact Of Aldehyde Dehydrogenases And Aldo-Keto Reductases In Human Olfactory Peri-Receptor Events.
  - Melis M, Naciri LC, Mariano M, Hummel T, Tomassini Barbarossa I (2023) Machine Learning Identifies The Most Important Parameters To Predict Prop Phenotype And Genotype, And The Overall Taste Status In Healthy Subjects And Patients With Taste Disease.
  - Mignot C, Menzel S, Podlesek D, Leonhardt G, Bensafi M, Hummel T (2023) Intracranial Recordings From The Human Olfactory Cortex In Response To Odors
  - Mastinu M, Pieniak M, Wolf A, Green T, Hähner A, Niv MY, Hummel T (2023) New Feasible Test For Clinical Assessment Of Taste And Oral Somatosensory Function - The Seven-Itt
  - Power Guerra N, Kruschwitz E, Hummel T (2023) Four Odorants For Olfactory Training Is Enough
  - Joshi A, Thaploo D, Thomas M, Hummel T (2023) Lateralized Dominance Of The Nasal Cycle Is Not Reflected In Olfactory Bulb Volumes And Cerebral Activations.
  - Li Z, Manan HA, Heitmann H, Witte V, Wirkner K, Riedel-Heller S, Villringer A, Hummel T (2023) The Association Between Depth Of The Olfactory Sulcus, Age, Gender And Olfactory Function: An Mri-Based Investigation In More Than 1000 Participants
  - Thaploo D, Joshi A, Yilmaz E, Yildirim D, Altundag A, Hummel T (2023) Functional Connectivity Patterns In Patients With Parosmia

nature



- Sabiniewicz A, Borowicz H, Geminiani G, Trawinski J, Hummel T, Laska M (2023) Behavioral Responses Of Horses (Equus Ferus Caballus) Vary In Response To Presumably Attractive Or Aversive Odor Stimuli.
- Tepper BJ, Mastinu M, Melis M, Tomassini Barbarossa I (2023) Equally-Liked Food Aromas Elicit Different Emotions Based On Gender And Prop Taster Status.
- Sorokowska A, Chabin D, Barszcz S, Rokosz M, Kamienska A, Pieniak M, Oleszkiewicz A (2023) Olfactory Development And Food Neophobia In Preschool And Elementary School Children
- Mai Y, Vogel C, Thiele J, Hölscher T, Hummel T (2023) Abnormal Visual And Olfactory Sensations During Radiation Therapy: A Prospective Study
- Hernandez AK, Walke A, Haehner A, Cuevas M, Hummel T (2023) Associations Between Gustatory, Trigeminal And Olfactory Functions And Nasal Airflow
- Hummel T (2023) Age-Related Trigeminal Dysfunction
- April 21<sup>st</sup>, 2023: Thomas Hummel presents at the webinar of the European Rhinologic Society on “Smell and Taste Disorders: Diagnosis, Treatment, and Outcomes”. [https://youtu.be/etARWy\\_tEWU](https://youtu.be/etARWy_tEWU)
- May 17, 2023: The **Cherry Seminar** organized as part of the Scandinavian Center for Orofacial Neurosciences (SCON; Thomas List) and Smell and Taste Clinic, Dresden. Presentations by
  - STaste and smell: anatomy, physiology – normal and disordered function (Thomas Hummel)
  - Taste and smell questionnaires (Agnieszka Sabiniewicz)
  - Assessment of gustatory and olfactory function (Tin Hernandez)
- May 18<sup>th</sup>-May 19<sup>th</sup>, 2023: [Deutscher HNO Kongress in Leipzig](#)
  - Welge-Lüssen, **T. Hummel**, M. Damm, V. Gudziol - Kurs: Riechen und Schmecken - Kursleitung
  - **C. Vogel**, Y. Mai, T. Hölscher, J. Thiele, T. Hummel - Abnormal visual and olfactory sensations during irradiation therapy: a prospective study.
  - **N. Gunder**, T. Hummel, T. Zahnert, M. Cuevas - Real-world-effectiveness von Dupilumab und Omalizumab bei schwerer chronischer Rhinosinusitis mit Polyposis (CRSwNP)
  - **S. Menzel**, I. Konstantinidis, P. Battaglia, M. Turri-Zanoni, G. Sileo, T. Zahnert, G. Monti, T. Hummel, P. G. M. Castelnovo, A. Macchi - Operative Zugangswege zur Stimulation des Bulbus olfactorius im Sinne eines „olfaktorischen Implantates“
  - **T. Hummel** - Riechen und Schmecken
- June 9<sup>th</sup> 2023: seminar for neuroscience students with presentations by Divesh Thaploo, Akshita Joshi, Michal Pieniak, Tin Hernandez, Antje Hähner, Nicole Power Guerra, Thomas Hummel



		group A - practical sessions	group B - practical sessions
12:00	Arrival at house #29 (clinic for orthopedics), top floor		
12:00-13:00	Hummel - smell, taste: general introduction		
13:00-13:45	Power Guerra - body odors		
13:45-14:45	break		
14:45-15:15	Hähner - neurodegenerative disorders		
15:15-15:45	Thaploo - Neuroimaging in the olfactory system		
15:45-16:15	transfer to house #5, basement; short break		
16:15-16:40		Pieniak - olfactometry, EEG/ERP/EOG data analysis	Joshi - ortho- and retronassal olfactory tests, taste tests
16:40-17:05		Hernandez - nasal endoscopy	Pieniak - olfactometry, EEG/ERP/EOG data analysis
17:05-17:30		Joshi - ortho- and retronassal olfactory tests, taste tests	Hernandez - nasal endoscopy
17:30-17:45	Hummel - goodbye		
17:45	Transfer to train station		

- Annual conference of the European Rhinological Society, in Sofia, from June 18 to June 22, 2023: presentations by Thomas Hummel  
Monday 19<sup>th</sup>: "Recovery of olfaction after COVID-19"  
Tuesday 20<sup>th</sup>: keynote presentation: "Shedding light on parosmia and phantosmia"

### Presentations in the lab:

- 12th of April, 16:00h Dr. Francesco de Sousa from the ENT Department at Centro Hospitalar Universitário do Porto, Portugal, present on "Nasal PRP injections for treatment of olfactory dysfunction"
- 26.4.2023: JC - Yunmeng Zhu: [kumari & mistretta: Anterior and Posterior Tongue Regions and Taste Papillae: Distinct Roles and Regulatory Mechanisms with an Emphasis on Hedgehog Signaling and Antagonism](#)
- 26.4.2023: Eva Drnovsek: [Secundo et al: Individual olfactory perception reveals meaningful nonolfactory genetic information](#)
- April 27, 2023: Sebastian Meller, Small Animal Diseases, Tierhochschule, Hannover, presents on "olfactory function in dogs"
- May 9, 2023: [Simon Hanisch](#), Praktische IT-Sicherheit, KIT Campus, Karlsruhe, on "Privacy inferences via human odor"
- May 10, 2023: Online: Michal Pieniak on "Disgusting odors trigger the oral immune system"
- May 10, 2023: Phatthanamon Sinsawat (« Book ») Faculty of medicine, Siriraj, Bangkok, Thailand, on "Aging-related olfactory loss is associated with olfactory stem"
- May 16, 2023: Akshita Joshi presents on "Yildirim D, Kandemirli SG, Tekcan Sanli DE, Akinci O, Altundag A. A Comparative Olfactory MRI, DTI and fMRI Study of COVID-19 Related Anosmia and Post Viral Olfactory Dysfunction. Acad Radiol. 2022 Jan;29(1):31-41"
- May 25, 2023: [Anton Rauhameri](#) from Tampere University presents at 15:00h on "Analysis of Differential Mobility Spectrometry readings"
- May 26, 2023: PD Dr. med. Valentin Schriever, Dept. of Pediatric Medicine, Charite, Berlin, will present at 15:00 in house 5, basement, on **olfactory function in children!**
- June 6, 2023: Eva Drnovsek presents on

Report  
**The perception of odor pleasantness is shared across cultures**

Arin Arshamian,<sup>1,2</sup> Richard C. Gerkin,<sup>1</sup> Nicole Krieger,<sup>1</sup> Evelina Wu,<sup>1,3</sup> Simon Floyd,<sup>1</sup> Carolyn O'Meara,<sup>4</sup> Gabriela Garrido Rodriguez,<sup>1</sup> Johan N. Lundström,<sup>1,5,6</sup> Joel D. Mainland,<sup>1,7</sup> and Julia Majaj<sup>1,7,8,9</sup>

- June 15, 2023: Tin Hernandez presents on

JAMA | Review

**Interventions to Improve Medication Adherence  
A Review**

Vinay Kini, MD, MSHP; P. Michael Ho, MD, PhD

- June 15, 2023: Brigit High presents on “P2X receptors in gustatory function”

**What else:**

- Publikationsanalyse 2012-2021: Thomas Hummel ist meistzitiertester Autor im Fachgebiet HNO

**Hals-Nasen-Ohren-Forschung**

**Publikationsanalyse 2012 – 2021**  
Von Maria Rembold

Die meistzitierten Originalartikel	Zitate
1. Smith, P.L., Moore, J.L., Knack, L., Smith, M.P. Upper-Airway Stimulation for Obstructive Sleep Apnea. <i>NEW ENGL J MED</i> 370(2): 139-49 (9 JAN 2014)	643
2. Meishardt, J., et al. Olfactory neuroendocrine SARS-CoV-2 invasion as a port of central nervous system entry in individuals with COVID-19. <i>NAT NEUROSCI</i> 24(2): 168-75 (FEB 2021)	583
3. Tomasien, P., Olze, H., Forster-Ruhmann, U., Bächert, C. Inflammatory endotypes of chronic rhinosinusitis based on cluster analysis of biomarkers. <i>J ALLERGY CLIN IMMUN</i> 137(5): 1489-96 (MAY 2016)	566
4. Bächert, C., Olze, H., Mannert, L.P. Efficacy and safety of dupilumab in patients with severe chronic rhinosinusitis with nasal polyps. LIBERTY NP SINUS-24 and LIBERTY NP SINUS-52: results from two multicentre, randomised, double-blind, placebo-controlled, parallel-group phase 3 trials. <i>LANCET</i> 396(10209): 1638-50 (2 NOV 2020)	497
5. Castellanos, X.C., Halec, G., Begner, T., Holzinger, D., Pavlita, M., Bosch, F.K. HPV involvement in Head and Neck Cancers: Comprehensive Assessment of Biomarkers in 3680 Patients. <i>JNCI/JNAT, CANCER</i> 110(16): 6140-51 (AUG 2018)	454
6. Durham, S.R., Kopp, A., Dahl, R. SQ standardised sublingual gran immunotherapy: Confirmation of disease modification 2 years after 5 years of treatment in a randomised trial. <i>J ALLERGY CLIN IMMUN</i> 129(3): 717-25 (MAY 2012)	372
7. Stensmyr, M.C., et al. A Conserved Dedicated Olfactory Circuit for Detecting Harmful Microbes in Drosophila. <i>CELL</i> 153(6): 1545-57 (DEC 2012)	367
8. Blamly, P., Diller, N., Huber, A., Lazar, D.S. Factors Affecting Auditory Performance of Postlingually Deaf Adults Using Cochlear Implants: An Update with 2251 Patients. <i>OTOL NEUROTOLOGY</i> 38(1): 36-47 (2017)	348
9. Soyka, M.B., et al. Defective epithelial barrier in chronic rhinosinusitis: The regulation of tight junctions by IFN-gamma and IL-4. <i>J ALLERGY CLIN IMMUN</i> 125(3): 1087-96 (NOV 2010)	307
10. Bork, K., Hardt, J., Witke, G. Fatal lymphoid attacks and mortality in hereditary angioedema due to C1-INH deficiency. <i>J ALLERGY CLIN IMMUN</i> 130(3): 610-7 (SEP 2012)	296

Die meistzitierten Köpfe	Zitate	Anzahl
1. Thomas Hummel, Klin. u. Polikl. f. HNO-Heil., TU Dresden	9,387	446
2. Bill S. Hansson, Abt. Evolut. Neuroethol. MPI f. Chem. Ökol. Jena	6,056	163
3. Oliver Pfarr, Rhinol. u. Allergol. Univ.-Klin. Marburg (am Westhof)	5,336	139
4. Michael Strupp, Neurol. Univ.-Klin. Großhadern LMU München	4,590	137
5. Werner Hochelmann, HNO-Unt. Klin. Innsbruck	4,579	96
6. Ludwig Klimek, Zentr. f. Rhinol. & Allergol. Wiesbaden	4,443	205
7. Thomas Lenarz, HNO-Klinik MHH Hannover	4,390	338
8. Orlando Goerz-Lichau, Klin. f. HNO-Heilkunde Unik.-Klin. Jena	3,248	279
9. Jens Peter Kuhlmann, HNO-Klin. Univ. Köln (am Viefel)	3,153	133
10. Christoph Alexiou, HNO-Klinik Univ.-Klin. Erlangen	3,007	193
11. Stephan Lang, Klin. f. HNO-Heil. u. Kopf u. Halschirurgie, Univ. Essen	2,971	148
12. Joachim T. Metzner, HNO-Klin. Univ.-Klin. Mannheim	2,847	56
13. Heidi Olze, HNO-Klin. Charité-Berlin	2,841	108
14. Tobias Moser, Audiol. Neurootol. Univ. Göttingen	2,651	73
15. Heide H. HNO-Klinik & Kopf-Hals-Tumorzentr. Univ.-Klin. Erlangen	2,580	205
16. Henes Matt, ZHlPhysiol. Ruhr-Universität Bochum	2,480	85
17. Sven Brandau, HNO-Klin. Univ.-Klin. Essen	2,451	67
18. Thomas K. Hoffmann, Publikl. f. HNO-Heil., Unik.-Klin. Ulm	2,407	203
19. Christoph A. Reichel, Klin. f. HNO, Kopf u. Halschirurgie LMU München	2,386	66
20. Markus Knaden, Evolut. Neuroethol. MPI f. Chem. Ökol. Jena	2,354	61
21. Rudolf Hagen, HNO-Klin. Univ.-Klin. Würzburg	2,253	163
22. Andreas Dietz, HNO-Heilkunde Unik.-Klin. Leipzig	2,137	178
23. Marco Caversaccio, HNO-Klin. HNO u. Kopf u. Halschirurgie Insprtal Bern	2,134	164
24. Peter K. Plinkert, HNO-Klin. Univ. Heidelberg	2,114	111
25. Friedrich „Fritz“ Horak, Allergozentrum Wien West	1,891	41
26. Johannes Zerk, HNO-Heilkunde Univ.-Klin. Augsburg	1,883	87
27. Patrick J. Schulze, HNO-Klin. Unik. Ulm	1,794	96
28. Birger Kollmeier, Med. Physik u. Akustik Univ. Oldenburg	1,787	116
29. Alexander W. Huber, Otorin. Nasen. Hals- & Gesichtschirurgie Univ. Spital Zürich	1,707	89
30. Silke Sachse, Evolut. Neuroethol. MPI f. Chem. Ökol. Jena	1,648	30

Die meistzitierten Reviews et al.	Zitate
1. Fokkens, W.J., Bächelmann, H., Wormald, P.J. European position paper on rhinosinusitis and nasal polyps 2012. <i>RHINOLOGY</i> 50: 1-296 (MAY 2012)	3,018
2. Krieger, N., Klimek, L., Schmid-Grendelmeier, P., Zuberbier, T., Schwaninger, H. Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines-2016 revision. <i>J ALLERGY CLIN IMMUN</i> 140(4): 205-58 (OCT 2017)	783
3. Lopez-Escamez, J.A., Strupp, M., Bludorf, A. Diagnostic criteria for Meniere's disease. <i>J VESTIBUL RES EQUILIB</i> 23(1): 1-7 (2013)	665

**So entstehen unsere Tabellen**  
Berücksichtigte wurden Artikel aus den Jahren 2012 bis 2021 mit mindestens einem Autor mit Adresse im deutschen Sprachraum. Die Zahlen für Zitate und Artikel lieferte die Datenbank „Web of Science“ von Clarivate Analytics (ehemals bei Thomson Reuters). Die „Köpfe“ publizierten zwischen 2012 und 2021 bevorzugt in Fachblättern zur Otorhinolaryngologie – oder erarbeiteten an einem Institut dieser Ausrichtung. Reviews, Meeting Abstracts oder Briefe zählen nicht. Wichtig: Die Datenbanken sind nicht fehlerfrei. Deren „Innere“ Fehler können wir in der Regel nicht erkennen.  
Listet Maria Rembold

- June 9, 2023: Thomas Hummel participates in “Patient - Research Engagement: Informing Research Through Lived Experiences” organized by [STANA](#) and [ACHEMS](#)



[Link on youtube](#)

**media:**

- May 10: Thomas Hummel: Interview with Serena Williams for the podcast [Thriving Minds](#)
- June 30: talk with Erica Vowles from ALL IN THE MIND , ABC Radio National, Australia: <https://www.abc.net.au/radionational/programs/allinthemind/all-in-the-mind/102492908>